

S. Report

L6 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS on STN
RN 163702-07-6 REGISTRY
CN Butane, 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 1,1,1,2,2,3,3,4,4-Nonafluoro-4-methoxybutane
CN 1-Methoxynonafluorobutane
CN HFC 7100
CN HFE 449
CN Methyl nonafluorobutyl ether
CN Methyl perfluorobutyl ether
CN n 7100
CN Perfluorobutyl methyl ether
FS 3D CONCORD
MF C5 H3 F9 O
CI COM
SR CAS Registry Services
LC STN Files: CA, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, IPA,
MSDS-OHS, TOXCENTER, USPAT2, USPATFULL
Other Sources: TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

MeO—(CF₂)₃—CF₃

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

221 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
222 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS on STN
RN 355-42-0 REGISTRY
CN Hexane, tetradecafluoro- (6CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN FC 72
CN Fluorinert FC 72
CN Fluorinert PF 5060
CN Flutec PP 1
CN n-Tetradecafluorohexane
CN Perflexane
CN Perfluoro-n-hexane
CN Perfluorohexane
CN PF 5060
CN PP 1
CN **Tetradecafluorohexane**
FS 3D CONCORD
DR 154452-93-4, 82785-18-0
MF C6 F14
CI COM
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*,
BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT,
CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHM, DETHERM*,
DIOGENES, DRUGNL, DRUGUPDATES, EMBASE, HODOC*, IFICDB, IFIPAT, IFIUDB,
MEDLINE, NIOSHTIC, PHAR, PROMT, RTECS*, SPECINFO, TOXCENTER, USAN,
USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

F₃C-(CF₂)₄-CF₃

-----claim tree-----

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1----2
+-----29----30
+-----25----26----27----28
+-----23----24
+-----13----14----15----16----17
      +-----19----20----21
            +-----22
                  +-----18
+-----8----12
+-----7----11
+-----6----10
+-----5----9
+-----4
+-----3

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31----32----33----34
+-----41
+-----40
+-----39
+-----38
+-----37
+-----35----36

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42

43

44

-----112-----

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claim# 44 contains the word -> prefer
claim# 44 contains the word -> such as
claim# 44 contains the word -> for example
claim# 44 contains the word -> type
claim# 44 contains the word -> especially

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-----best-----

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6383998
6419909
6616917
5306498
6224851
6251375
6395285
6342469
6242396
6228377
6002038
6548073
6333362
5612043
6503520
5741766
6534071
6468550
4960764
5851539
6509024
6562353
6297204
6399080
6576248
6562322
5800816
6274152
6562354
6541432
6326013
6210692

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5665687
6361782
6534072
6491931
6489283
6180123
6544533
6395262
6245322
5972315
5833997
5955003
6623769
6521211
6511655
6372202
6551576
6565839
6551604
5733572
6506391
6432424
5741499
6491934
6485732
6541018
6528071
6491935
6555099
6565865
6572870
6495150
6576623
6476063
6488947
6485731
6565885
6486165
6492351
6531165
6524562
6455055
6436885
6613341
6346237
6482517
6589542
6569404
6277387
5993833
5916575
6514977
5997887
6306806
6534047
6491928
6268322
6322801
6573257
6391910
6525059
6423713
6511656
6423323
6541473
6531467
6537537
6080708

-----classlist-----

424/401
424/59
424/63

424/64
 514/938
 510/417
 424/707
 510/136
 424/701
 514/846
 514/844
 510/130
 514/937
 424/400
 514/845
 510/159
 424/60
 510/123
 510/131
 424/61
 424/69
 510/158
 514/957
 424/709
 516/23
 424/697
 424/679
 424/617
 424/706
 514/847
 514/759
 424/62
 134/40
 424/677
 514/747
 424/696
 424/680
 510/466

-----keywords-----

make-up removal removing make-up isododecane isoparaffin polydimethyl siloxane pdms polysiloxane trifluoromethyl pf5060 pf5050 perfluoroalkane flutec perfluorocyclopentane perfluorocycloalkyl shaking shake lowe r phase upper phase two phase fatty phase emulsion microemulsion perfluoro makeup make-up xanthan Glycerol fragrances polymers emollient Corning emulsions emulsifier ingredients fresh palmitate dissolved neutralized ammonium acrylate antioxidants fluoro silicate perfluorocycloalkyls dimethicone copolyol integrity CF-- softness p--F cosmetic ingredient oily crosslinked polymers polyacrylic softening guar polyvinylpyrrolidone detergent synthetic polymers ethyl palmitate isopropyl isostearate petroleum perfluoroalkanes myristyl creams homogeneous emulsion hexyl laurate detergent surfactants afford thickeners dyes magnesium petroleum jelly xanthan gum polyvinyl surfactants crosslinked acrylate imparting polyvinyl alcohol polysiloxanes formulated guar gum surfactant m--CF polysaccharide butyl myristate synthetic impurities derivatives oil-in-water emulsion branched silicone isopropyl palmitate myristyl propionate dispersed phases detergent surfactant miscible wool greasy propionate dissolving thickener ingredient cotton hydrocarbon fluoroalkyls water-in-oil heterofluoroalkyls immiscible milk fatty acids t--X--CF perfluoroalkyl cream phase diisopropyl oil-in-water aqueous phase hexyl volatile hydrocarbon fatty acid isobutyl n--CF isodecyl neopentanoate perfluoromorpholine dioctyl isopropyl perfluoromethylcyclopentane- dioctyl adipate radicals isopropyl myristate alcohols diisopropyl adipate ranging oils acid esters perfluoro dodecafluoropentane adipate skin tetradecafluorohexane anhydrous volatile fatty esters bromoperfluorooctyl nonafluoromethoxybutane fatty nonafluoroethoxyisobutane cleansing non-fluoro cosmetic radical polydimethylsiloxanes cyclopentasiloxane cyclohexasiloxane isoparaffins myristate hexanoate laurate octyldodecyl octanoate isodecyl neopentanoate caprate/caprylate isohexyl isostearate pad soaks multiphase make-up-removing W/O O/W traces accumulated originating pollution cleanse attacking non-waterproof nevertheless drawback hydrolipid irritations eyelids eyes lips disadvantageous delicate waterproof jelly sensation extensive studies high-quality freshness impairing pleasantness comfort appreciable

-----references-----

----- 6383998
 classes:1 510/136 1 134/40 1 424/59 1 424/61 1 424/64 1 424/401 1 510/130
 score: 1758

keywords: make-up removal;removing make-up;fatty phase;emulsion;perfluoro;make-up;xanthan;Glycerol;polymers;emulsions;emulsifier;dissolved;ammonium acrylate;fluoro;perfluorocycloalkyls;dimethicone copolyol;integrity;cosmetic ingredient;oily;crosslinked polymers;polyacrylic;guar;detergent;petroleum;perfluoroalkanes;myristyl;creams;homogeneous;emulsion;detergent surfactants;thickeners;petroleum jelly;xanthan gum;surfactants;crosslinked;acrylate;imparting;polysiloxanes;formulated;surfactant;polysaccharide;synthetic;impurity

ies;derivatives;branched;silicone;dispersed;detergent surfactant;miscible;wool;greasy;dissolving;thickener;ingredient;cotton;hydrocarbon;fluoroalkyls;water-in-oil;heterofluoroalkyls;immiscible;milk;perfluoroalkyl;cream;phase;diisopropyl;oil-in-water;aqueous phase;hexyl;volatile hydrocarbon;fatty acid;isobutyl;perfluoromorpholine;dioctyl;isopropyl;radicals;alcohols;ranging;oils;acid esters;perfluoro;dodecafluoropentane;skin;tetradecafluorohexane;anhydrous;volatile;fatty esters;bromoperfluorooctyl;nonafluoromethoxybutane;fatty;cleansing;non-fluoro;cosmetic;polydimethylsiloxanes;cyclopentasiloxane;cyclohexasiloxane;laurate;octyldodecyl;isodecyl;isoheptyl;pad;soaked;make-up-removing;W/O;O/W;traces;accumulated;originating;cleanse;attacking;non-waterproof;nevertheless;drawback;hydrolipid;disadvantageous;delicate;waterproof;jelly;sensation;extensive;studies;high-quality;freshness;pleasantness;appreciable;lies;perfluoromethylcyclopentane;BNFL;Fluorochemicals;MSX;Pecosil;Phoenix;belonging;alkyl-;alkoxydimethicone;copolyol;dimethicone;copolyols;milks;biopolymers;carob;crosslinked;myristyl;polysiloxanes;petroleum;polyacrylic;

- e of a thickener, which is then present in an amount ranging from 0.1 to 5% by weight, relative to the total weight of the composition in milk or cream form.

The thickener can be chosen, for example, from:

- (a) **polysaccharide** biopolymers such as **xanthan gum**, carob gum, **guar gum**, alginates, and modified celluloses such as hydroxyethylcellulose, methylcellulose, hydroxypropylcellulose, and carboxymethylcellulose, and
- (b) **synthetic polymers**, for example polyacrylic acids such as the polyglyceryl (meth)acrylate polymers sold under the names "Hispagel.RTM.," "Lubragel.RTM.," or "Sepigel 305.RTM.," respectively, by the companies Hispano Quimica, Guardian, and SEPPIC, **polyvinylpyrrolidone**, **polyvinyl alcohol**, **crosslinked** polymers of acrylamide and **ammonium acrylate** sold under the names "PAS 5161 e" or "Bozepololl.RTM." by the company Hoechst, **crosslinked** polymers of acrylamide and methacryloyloxyethyl-trimethylammonium chloride sold under the

incorporated herein by reference.
The compositions according to the invention as defined above can also comprise any conventional **cosmetic ingredient** such as, for example, preserving agents, **antioxidants**, fragrances, soluble dyes, or active principles which have, for example, emollient, regenerating, decongesting, anti-inflammatory, lightening, detoxifying, cicatrizing, or **softening** activity.

The present invention moreover relates to a process for removing make-up from the skin or for cleansing the skin, which comprises (1) applying, preferably with the fingers, a pad of cotton wool, or a paper tissue, a sufficient amount of the composition as defined above, to the parts of the skin to be cleansed or from which make-up is to be removed, (2) lightly massaging so as to detach the maximum amount of **impurities** and of the make-up product, and (3) removing the composition using a pad of cotton wool optionally soaked in water.

Sever

----- 6419909

classes:1 424/59 1 424/701 1 424/709 1 424/400 1 424/401 1 514/844 1 514/957
score: 1467

keywords: perfluoroalkane;perfluorocycloalkyl;fatty phase;emulsion;xanthan;Glycerol;polymers;Corning;emulsions;ingredients;neutralized;ammonium acrylate;fluoro;perfluorocycloalkyls;cosmetic ingredient;crosslinked polymers;polyacrylic;guar;perfluoroalkanes;creams;homogeneous;emulsion;dyes;magnesium;polyvinyl;surfactants;crosslinked;acrylate;surfactant;synthetic;derivatives;oil-in-water emulsion;branched;silicone;dispersed;phases;miscible;greasy;thickener;ingredient;fluoroalkyls;water-in-oil;heterofluoroalkyls;immiscible;perfluoroalkyl;cream;phase;oil-in-water;aqueous phase;perfluoromorpholine;ranging;oils;dodecafluoropentane;skin;volatile;bromoperfluorooctyl;nonafluoromethoxybutane;fatty;cosmetic;radical;cyclopentasiloxane;cyclohexasiloxane;isoparaffins;W/O;O/W;drawback;freshness;perfluoromethylcyclopentane;BNFL;Fluorochemicals;Phoenix;belonging;alkyl-;copolyol;dimethicone;copolyols;Dow;biopolymers;carob;alginates;crosslinked;mineral;silicone surfactant;Corning;silicones;polyacrylic;

- d to obtain, the **emulsion**s can optionally contain at least one thickener in a proportion of about from 0.05% to 10%, but preferably between 0.1% and 5% by weight. The thickener can be selected in particular from:
polysaccharide biopolymers such as **xanthan gum**, carob gum, **guar gum**, alginates and modified celluloses such as hydroxyethylcellulose, methylcellulose, hydroxypropylcellulose and carboxymethylcellulose;
synthetic polymers, for instance polyacrylic acids such as the polyglyceryl (meth)acrylate polymers sold under the names "Hispagel.RTM." or "Lubragel.RTM." by the company Hispano Quimica or the company Guardian, **polyvinylpyrrolidone**, **polyvinyl alcohol**, **crosslinked** polymers of

acrylamide and of **ammonium **acrylate** sold under the trade names "PAS 5161.RTM." or "Bozepol.RTM." by the company Hoechst, **crosslinked** polymers of acrylamide and of methacryloyloxyethyltrimethylammonium chloride sold under the trade name "Salcare SC 92.RT"

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classes:1 424/59 1 424/701 1 424/709 1 424/400 1 424/401 1 514/844 1 514/957
score: 1415

keywords: isododecane;perfluoroalkane;perfluorocycloalkyl;fatty phase;emulsion;xanthan;Glycerol;polymers;Corning;emulsions;ingredients;neutralized;ammonium acrylate;fluoro;perfluorocycloalkyls;dimethicone copolyol;cosmetic ingredient;crosslinked polymers;polyacrylic;guar;perfluoroalkanes;creams;homogeneous;emulsion;dyes;magnesium;xanthan gum;polyvinyl;surfactants;crosslinked;acrylate;surfactant;synthetic;derivatives;branched;silicone;dispersed;phases;miscible;greasy;thickener;ingredient;fluoroalkyls;water-in-oil;heterofluoroalkyls;immiscible;perfluoroalkyl;cream;phase;oil-in-water;aqueous phase;perfluoromorpholine;ranging;oils;dodecafluoropentane;skin;volatile;bromoperfluorooctyl;nonafluoromethoxybutane;fatty;cosmetic;radical;cyclopentasiloxane;cyclohexasiloxane;isoparaffins;W/O;O/W;drawback;freshness;perfluoromethylcyclopentane;BNFL;Fluorochemicals;Phoenix;belonging;alkyl-;copolyol;dimethicone;copolyols;Dow;biopolymers;carob;alginate;crosslinked;mineral;silicone surfactant;Corning;silicones;polyacrylic;

- rom 0.05% to 10%, but preferably between 0.1% and 5% by weight.
The thickener can be selected in particular from:
polysaccharide biopolymers such as **xanthan gum**, carob gum, **guar gum**,
alginates and modified celluloses such as hydroxyethylcellulose,
methylcellulose, hydroxypropylcellulose and carboxymethylcellulose;
synthetic polymers, for instance polyacrylic acids such as the polyglyceryl
(meth)acrylate polymers sold under the names "Hispagel.RTM." or
"Lubragel.RTM." by the company Hispano Quimica or the company Guardian,
polyvinylpyrrolidone, **polyvinyl alcohol**, **crosslinked** polymers of
acrylamide and of ammonium **acrylate** sold under the trade names "PAS
5161.RTM." or "Bozepol.RTM." by the company Hoechst, **crosslinked** polymers
of acrylamide and of methacryloyloxyethyltrimethylammonium chloride sold
under the trade name "Salcare SC 92.RTM." by the company Allied Colloids,
and **magnesium** aluminium **silicate**.
The **crosslinked** polymers of acryla

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classes:1 424/401 1 424/60 1 424/63 1 424/64 1 514/7724 1 514/847 1 514/937
score: 1263

keywords: fatty phase;emulsion;emulsions;emulsifier;palmitate;creams;emulsion;synthetic;silicone;disperse
d;water-in-oil;phase;oil-in-water;aqueous phase;ranging;oils;skin;fatty;cosmetic;W/O;dimethicone;waxes;mi
neral;

- in a first stage preparing a water-in-oil **emulsion** by adding an aqueous
or water phase to a fatty or oil phase so as to obtained said water-in-oil
emulsion, and
 - (b) in a second stage, adding said water-in-oil **emulsion** prepared in stage
(a) to a gelled aqueous or water phase containing, as a gelling agent, an
acrylic or methacrylic acid polymer or copolymer combined with a
polyglyceryl methacrylate so as to produce said triple **emulsion**.
 - 17. The process of claim 16 which includes introducing a perfluorinated oil
into said fatty or oil phase.
 - 18. The process of claim 16 which includes introducing, as a co-emulsifier,
a dodecyl glycol and ethylene oxide copolymer into said fatty or oil
phase.
 - 19. The process of claim 16 which includes introducing a perfluorinated
oil, and a dodecyl glycol and ethylene oxide copolymer, as a
co-emulsifier, into said fatty or oil phase.
 - 20. The process of claim 16 which includes in said first stage (a) adding
- without destabilizing the **emulsion** as a result.
- The subject of the invention is therefore a triple **emulsion** exhibiting the
characteristics defined below.
- Another subject of the invention is the process for producing such an
emulsion.
- The subject of the invention is also the cosmetic application of such
emulsions.
- Other subjects of the invention will emerge on reading the following
description and examples.
- The triple **emulsion** conforming to the invention is essentially

characterized in that it comprises (A) a continuous gelled outer aqueous phase, containing, as gelling agent, at least one acrylic or methacrylic acid polymer or copolymer, combined with a polyglyceryl methacrylate; (B) a fatty phase **dispersed** in the outer aqueous phase and an aqueous phase (C) **dispersed** in the fatty phase.

In accordance with a preferred embodiment of the invention, the gelled outer aqueous phase represents 40 to 60% by weight of the total **emulsion**, th

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classes:1 424/59 1 424/63 1 424/64 1 424/69 1 424/707 1 424/401 1 514/747 1 514/759 1 514/845 1 514/938
score: 1252

keywords: perfluoroalkane;flutec;perfluorocycloalkyl;fatty phase;emulsion;make-up;polymers;Corning;emulsi
ons;emulsifier;fluoro;softness;oily;petroleum;perfluoroalkanes;creams;emulsion;petroleum jelly;polyvinyl;
surfactants;surfactant;synthetic;derivatives;branched;silicone;miscible;water-in-oil;fatty acids;perfluor
oalkyl;phase;oil-in-water;aqueous phase;hexyl;fatty acid;perfluoromorpholine;isopropyl;alcohols;oils;acid
esters;dodecafluoropentane;tetradecafluorohexane;anhydrous;volatile;fatty esters;fatty;cosmetic;radical;
W/O;O/W;nevertheless;drawback;eyelids;lips;jelly;studies;appreciable;transfer-resistant;perfluoromethylcy
clopentane;BNFL;belonging;alkyl-;alkoxydimethicone;copolyol;dimethicone;Dow;waxes;mineral;softness;coconu
t;tallow;Corning;petroleum;

- r of propylene glycol monomyristate and **myristyl**
myristate.

As waxes which can be used in the compositions according to the invention, mention may also be made of cetyl alcohol, stearyl alcohol, mono-, di- and triglycerides which are solid at 25.degree. C., stearic monoethanolamide, colophony and its **derivatives** such as glycol and glyceryl abietates, sucroglycerides and calcium, **magnesium**, zinc and aluminium oleates, myristates, lanolates, stearates and dihydroxystearates, and fluoro waxes.

C--The fatty substances of pasty type can be of mineral, animal, plant or **synthetic** origin.

Among the pasty fatty substances, mention may be made in particular of **synthetic** esters such as arachidyl propionate, **polyvinyl** laurate, polyethylene waxes and organopolysiloxanes such as alkyl dimethicones, alkoxydimethicones or dimethicone esters.

Needles to say, the anhydrous compositions as defined above can also contain one or more conventional cosmet

- , and (iii) at least one emulsifier in a proportion of between about 1 and about 10% by weight relative to the total weight of the composition in **emulsion** form. As emulsifier or **surfactant** which can be used in the compositions in the form of a W/O or O/W **emulsion**, mention may be made in particular of **silicone surfactants** and in particular those belonging to the alkyl- or alkoxydimethicone copolyol family. Among the alkyl- or alkoxydimethicone copolyols, mention may be made in particular of the compounds corresponding to the following general formula:

##STR5##

in which:

R is a hydrogen atom, a C.sub.1 -C.sub.16 alkyl or an alkoxy or acyl,

R' is a C.sub.8 -C.sub.22 alkyl or alkoxy radical,

u=0 to 200,

v=1 to 40,

w=1 to 100,

the molecular weight of the radical --O--(C.sub.2 H.sub.4 O).sub.x

--(C.sub.3 H.sub.6 O).sub.y --R being from 250 to 2000, x and y being

chosen such that the weight ratio of the oxyethylene/oxypropylene groups is

- polyethoxylated stearyl or cetylstearyl alcohol, fatty acid esters of sucrose, glucose alkyl esters, in particular polyoxyethylenated fatty esters of (C.sub.1 -C.sub.6) alkylglucose, and

among the anionic **surfactants**: amine stearates.

These **emulsion**s are preferably be in the form of **creams** and can be used as make-up or sun-screen products. In the latter case, they contain UVA and/or UVB sunscreens and white pigments, in a variable proportion depending on the desired degree of protection.

The compositions as described above, whether of the anhydrous type or in the form of a dispersion, have excellent cosmetic properties such as, in particular, an excellent ease of application, great **softness** and lead to the production of a uniform make-up.

The compositions as have just been described above can also contain one or more conventional cosmetic adjuvants such as vitamins, hormones,

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antioxidants, preserving agents, fragrances, **thickeners**,